DOCUMENT RESUME

ED 414 495 CE 075 463

AUTHOR	Baxter, Jim
TITLE	Exploring Career Pathways. A Guide for Expanding Vocational-Technical Education in the Middle School/Junior High School.
INSTITUTION	Idaho State Div. of Vocational Education, Boise.
PUB DATE	1997-00-00
NOTE	39p.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Art; Blue Collar Occupations; *Career Education; Classroom Techniques; Clerical Occupations; *Curriculum Development; Delivery Systems; *Education Work Relationship; Finance Occupations; Forestry Occupations; Health Occupations; Integrated Curriculum; Intermediate Grades; *Junior High Schools; Learning Activities; Managerial Occupations; *Middle Schools; Natural Resources; Occupational Clusters; Office Occupations; Professional Occupations; Service Occupations; Skilled Occupations; Teaching Methods; Technical Occupations; *Vocational Education; White Collar Occupations
IDENTIFIERS	*Career Paths; Idaho

ABSTRACT

This guide, which was developed for Idaho middle and junior high school teachers, provides a framework for developing hands-on curricula that will acquaint students with concepts and activities common to a wide range of occupations. Presented after a brief introduction explaining the rationale for a curriculum based on career pathways are a curriculum framework and brief discussions of staffing and delivery options. The remainder of the guide consists of six sections that each contain the following: career pathway; career majors to which the pathway leads; and occupations to which the career majors lead. The pathways and career majors included are as follows: arts and communications (artistic design, communications, arts and entertainment); business and management (accounting, computer science, management, marketing and sales, banking and finance, consumer and personal services, administrative support); health services (health diagnostics, health therapy, health information support, health care environmental services); human resources (legal services, protective services, social services, educational services, recreation and coaching); industrial and engineering (construction, mechanical, production and manufacturing, technical service and repair, engineering); and natural resources (agricultural sciences, forestry and conservation, environmental sciences, exploratory sciences). Appended are the following: sample exploratory experience outline form; sample exploratory experience activity; and list of 22 resources. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 414 495

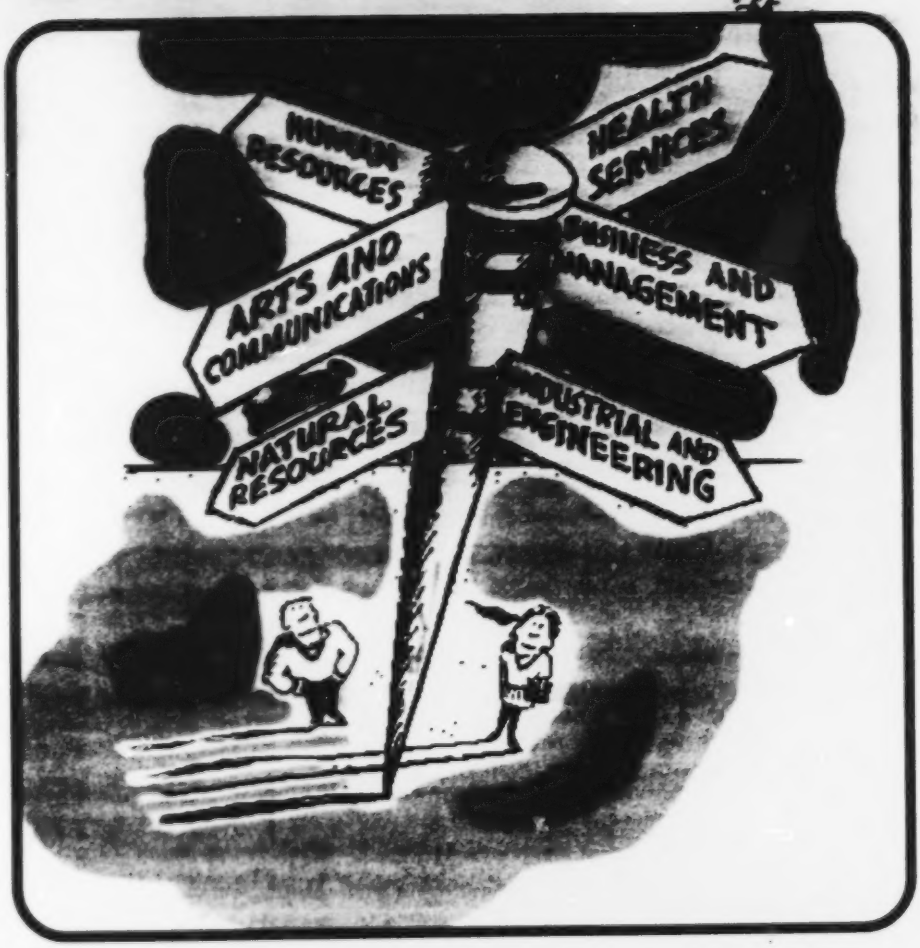
U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

T Anderson

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Exploring Career Pathways



IDAHO TE

A Guide for Expanding Vocational-Technical Education in the Middle School/Junior High School

BEST COPY AVAILABLE

CE075 463

Idaho State Board for Vocational Education

Judith C. Meyer President Hayden Lake	Thomas Dillon Vice President Caldwell	Jerry Hess Secretary Nampa
Harold Davis Member Idaho Falls		Curtis Eaton Member Twin Falls
Carole Mc William Member Pocatello	Roy Mosman Member Moscow	Anne C. Fox K-12 Education Boise

Acknowledgements

The Idaho Division of Vocational Education wishes to thank:

Jim Baxter, Former Career and Guidance/Work-Based Learning Program Manager, who conceptualized, wrote, edited and designed this publication; the CIS Staff and the Vocational Education Program Managers who provided information for the Career Majors outlined in this document; and the vocational education support staff who provided data entry and editing skills to this project.

Developed by:
Idaho State Division of Vocational-Technical Education
650 W. State Street, P.O. Box 83720
Boise, Idaho 83720-0095
Phone: (208) 334-3216, FAX (208) 334-2365
http://www.sde.state.id.us/vte/index

Contents

Introduction 3

Curriculum Framework 4
Staffing 5
Multiple Delivery Methods 6
Arts and Communications Career Pathway 7
Artistic Design Career Major 8
Communications Career Major 8
Arts and Entertainment Career Major 9
Business and Management Career Pathway 10
Accounting Career Major 11
Computer Science Career Major 11
Management Career Major 12
Marketing and Sales Career Major 12
Banking and Finance Career Major 13
Consumer and Personal Services Career Major 13
Administrative Support Career Major 14
Health Services Career Pathway 15
Health Diagnostics Career Major 16
Health Therapy Career Major 16
Health Information Support Career Major 17
Health Care Environmental Services Career Major 17
Human Resources Career Pathway 20
Legal Services Career Major 21
Protective Services Career Major 21
Social Services Career Major 22
Educational Services Career Major 22
Recreation and Coaching Career Major 23
Industrial and Engineering Career Pathway 24
Construction Career Major 25
Mechanical Career Major 25
Production and Manufacturing Career Major 26
Technical Service and Repair Career Major 26
Engineering Career Major 27
Natural Resources Career Major 28
Agricultural Sciences Career Major 29
Forestry and Conservation Career Major 29
Environmental Sciences Career Major 30
Exploratory Sciences Career Major 30

Appendices:

Sample exploratory experience outline form 31
Sample exploratory experience activity 32
Laboratory - QC Glucose Monitor 33

Resources 34

Exploring Career Pathways

INTRODUCTION

This document is intended as a resource guide for middle and junior high school educators expanding vocational-technical options and opportunities for students. It provides a framework for developing curricula that will acquaint students with concepts and activities common to a wide range of occupations. It may be especially useful to the growing number of Idaho school districts electing to organize high schools around career pathways.

An exploring career pathways curriculum will provide students with hands-on learning by actively involving them in experiencing tasks associated with the world of work. It will also provide students with opportunities to apply academic knowledge and make meaningful connections between their education and various career options. Additionally, it will assist students with educational planning as they prepare for the transition into high school.

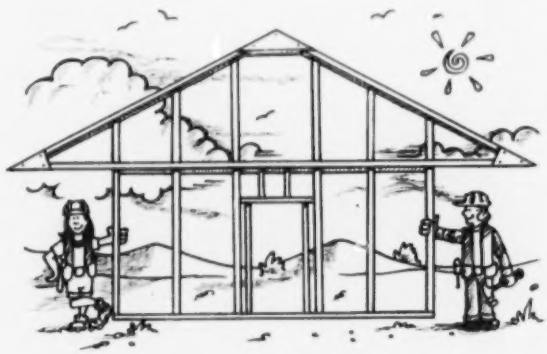
Exploring Career Pathways

CURRICULUM FRAMEWORK

An exploring career pathways curriculum provides students with **exploratory experiences** within each of Idaho's six **Career Pathways**: I. Arts and Communications; II. Business and Management; III. Health Services; IV. Human Resources; V. Industrial and Engineering; and VI. Natural Resources. As students move through these experiences, they will have opportunities to explore career and educational options, including that "something special" they seem motivated to do.

Within each pathway, clusters of educational programs known as **Career Majors** have been identified. Twenty-eight career majors, representing broad areas of study, are listed. For each career major, corresponding **Activity Components** are provided (parts of these may combine into a "special" career major) to form the basis of constructing an "Exploring Career Pathways" curriculum in middle/junior high schools. The activity components for each career major have been validated by their respective business and industry groups.

- **Career Pathway** — Clusters of educational programs of study and training that are grouped according to a work environment and common interest.
- **Career Major** — An educational focus or broad field of study leading to an occupation or cluster of occupations.
- **Exploratory Experiences** — Simulated occupational activities related to a career cluster.
- **Activity Components** — Those work elements that broadly define occupations within a career cluster.



Exploring Career Pathways

STAFFING

Flexible staffing options are available to middle/junior high schools as they expand vocational-technical education offerings. Regardless who teaches the vocational-technical curriculum, the following teacher competencies will be needed:

- A knowledge of the work-related subject area (i.e. career major).
- A knowledge of career/educational pathways.
- Skills in hands-on, integrated teaching methodologies.

Exploring Career Pathways

MULTIPLE DELIVERY METHODS

An exploring career pathways curriculum can be packaged into modules and offered to students through traditional rotating quarter, semester, or trimester courses. Pathway modules may also be delivered via exploratory, advisory, or other methods common to the middle school/junior high school schedule.

1. Arts and Communications Career Pathway

The Arts and Communications career pathway includes educational programs of study and training designed to prepare students for careers in an arts and communication environment. Career Majors in this pathway include: Artistic Design, Communications, and Arts & Entertainment.

Artistic Design Career Major

The Artistic Design Career Major consists of coursework that prepares students for occupations that include Interior Designers and Decorators, Architects, Graphic Artists and Designers, Clothes Designers and Patternmakers, Floral Designers, and Landscape Architects.

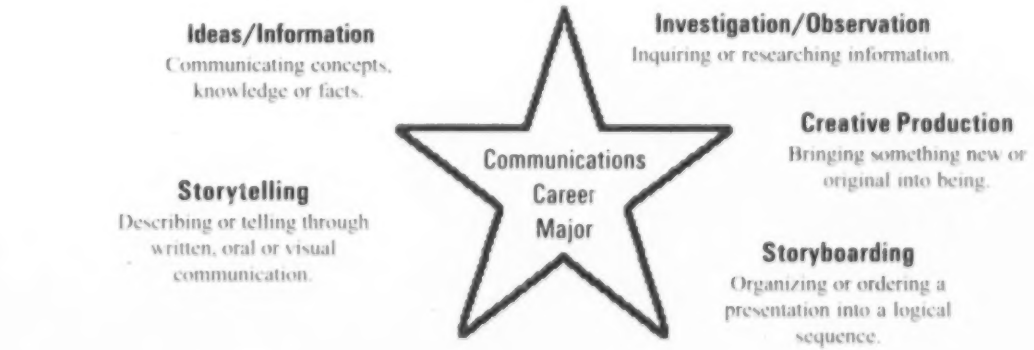
To acquaint students with Artistic Design careers, exploratory experiences should include the following activity components:

Creativity
Thinking, brainstorming, visualizing, conceiving new ideas; and bringing something new or original into being.
Listening/Interpretation
Understanding customer needs or goals and helping them to achieve those goals through the designing process.
Artistic Design Career Major
Visualization
Forming mental images of ideas.
Computer Technician
Turning visual ideas and images into tangible, computer-generated products.
Deadlines/Detail
Paying attention to deadlines and technical accuracy of design projects.

Communications Career Major

The Communications Career Major consists of coursework that prepares students for occupations that include Writers and Editors, Radio and Television Broadcasters, Film and Video Makers, and Public Relations Workers.

To acquaint students with Communications careers, exploratory experiences should include the following activity components:



Arts and Entertainment Career Major

The Arts and Entertainment Career Major consists of coursework that prepares students for occupations that include Actors, Singers, Dancers, Musicians, and Models.

To acquaint students with Arts and Entertainment careers, exploratory experiences should include the following activity components:

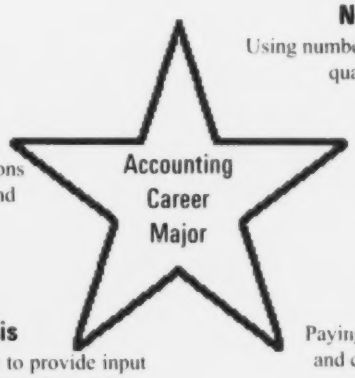
II. Business and Management Career Pathway

The Business and Management Career Pathway includes educational programs of study and training designed to prepare students for careers in a business environment. Career majors in this pathway include: Accounting, Computer Science, Management, Marketing and Sales, Banking and Finance, Consumer and Personal Services, and Administrative Support.

Accounting Career Major

The Accounting Career Major consists of coursework that prepares students for occupations that include Accountants and Auditors, Tax Preparers, Management Analysts and Consultants, Property and Real Estate Managers, Accounting and Statistical Clerks, and Bookkeepers.

To acquaint students with Accounting careers, exploratory experiences should include the following activity components:



Numbers
Using numbers to organize and quantify data.

Systems/Procedures
Implementing a systematic series of actions to ensure proper accounting practices and procedures.

Controls
Regulating operations to ensure the safeguarding and accountability of a company's assets and resources.

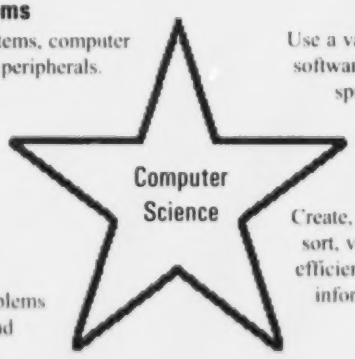
Analysis
Evaluating information to provide input in the planning and direction of the company's operations.

Detail
Paying attention to the accuracy and consistency of accounting operations.

Computer Science & Information Systems Career Major

The Computer Science & Information Career Major prepares students for occupations such as Word Processor, Desktop Publisher, Information Assistant; Systems Programmer, Telecommunications Specialist, and Systems Operator.

To acquaint students with Computer Science careers, exploratory experiences should include the following activity components:



Systems
Use operating systems, computer hardware, and peripherals.

Applications
Use a variety of business applications software including word processing, spreadsheet, database, and desktop publishing.

Technical Documentation
Using manuals and other resources to solve hardware and software problems.

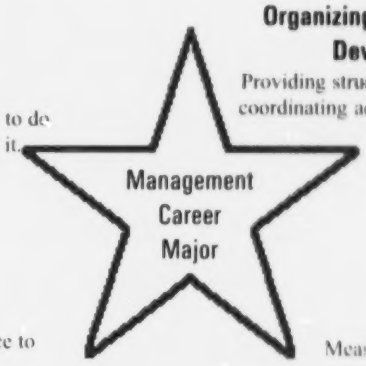
Manage Information
Create, format, edit, and produce documents; sort, verify, classify, and categorize data for efficient retrieval; locate, access and retrieve information manually and electronically.

Problem Solving
Developing solutions to problems using critical thinking and computer skills.

Management Career Major

The Management Career Major consists of coursework that prepares students for occupations that include Construction Managers, Hotel and Motel Managers, Sales and Service Managers, Business Executives and Managers, Military Officers, and Education Administrators.

To acquaint students with Management careers, exploratory experiences should include the following activity components:



Organizing/Organizational Development
Providing structure by arranging and coordinating activities and resources.

Strategic Planning
Deciding in advance what to do, how to do it, when to do it, and who is to do it.

Staffing/Teaming
Acquiring human resources and placing them into complementary work groups or situations.

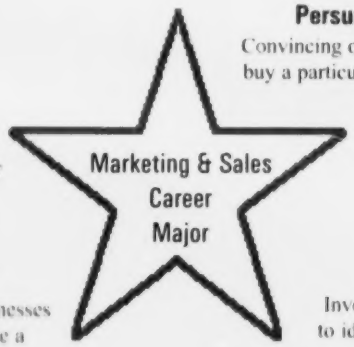
Leading
Providing direction or guidance to others.

Evaluating
Measuring the accomplishment of activities against plans.

Marketing and Sales Career Major

The Marketing and Sales Career Major consists of coursework that prepares students for occupations that include Market Research Analysts, Retail Sales People, Route Sales People, and Sales Representatives.

To acquaint students with Marketing and Sales careers, exploratory experiences should include the following activity components:



Persuasion/Closing
Convincing or influencing others to buy a particular product or service.

Persistence
Continuing on stubbornly in spite of opposition.

Ideas
Generating thinking about new and novel products or services; or new applications to existing ones.

Competitive Analysis
Examining the strengths and weaknesses of competing businesses to shape a venture and estimate market share.

Consumer Research
Investigating demographic information to identify buying patterns and potential new markets.

Banking and Finance Career Major

The Banking and Finance Career Major consists of coursework that prepares students for occupations that include Security Sales People, Financial Managers, and Loan Officers.

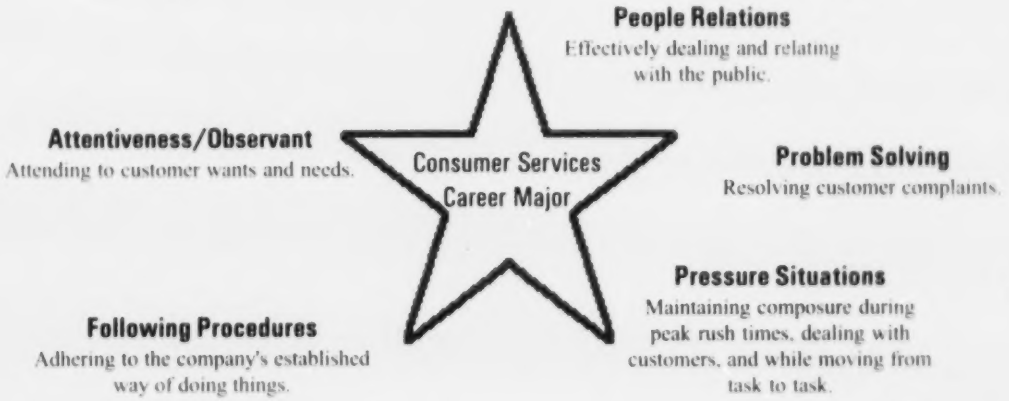
To acquaint students with Banking and Finance careers, exploratory experiences should include the following activity components:

Record Keeping
Computing and recording financial data.
People Relations
Determining financial needs and explaining financial data to individuals.
Banking and Finance Career Major
Financial Management
Recording receipts, expenses and balances.
Financial Planning
Preparing budget, forecasts and financial reports that provide financial information.
Investing
Gathering information about investments and stock markets.

Consumer and Personal Services Career Major

The Consumer Services Career Major consists of coursework that prepares students for occupations that include Travel Agents, Auto Parts Counter Workers, Hotel Desk Clerks, Receptionists, and Customer Service Representatives.

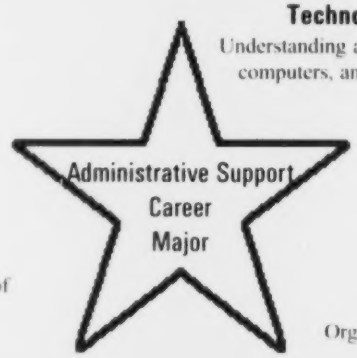
To acquaint students with Consumer Services careers, exploratory experiences should include the following activity components:


People Relations
Effectively dealing and relating with the public.
Attentiveness/Observant
Attending to customer wants and needs.
Consumer Services Career Major
Problem Solving
Resolving customer complaints.
Pressure Situations
Maintaining composure during peak rush times, dealing with customers, and while moving from task to task.
Following Procedures
Adhering to the company's established way of doing things.

Administrative Support Career Major

The Administrative Support Career Major consists of coursework that prepares students for occupations that include Secretaries, Typists and Word Processors, Stenographers, and Medical Records Technicians.

To acquaint students with Administrative Support careers, exploratory experiences should include the following activity components:



Technology Awareness
Understanding and operating fax machines, computers, and other office equipment.

Communications
Composing correspondence and handling phone calls.

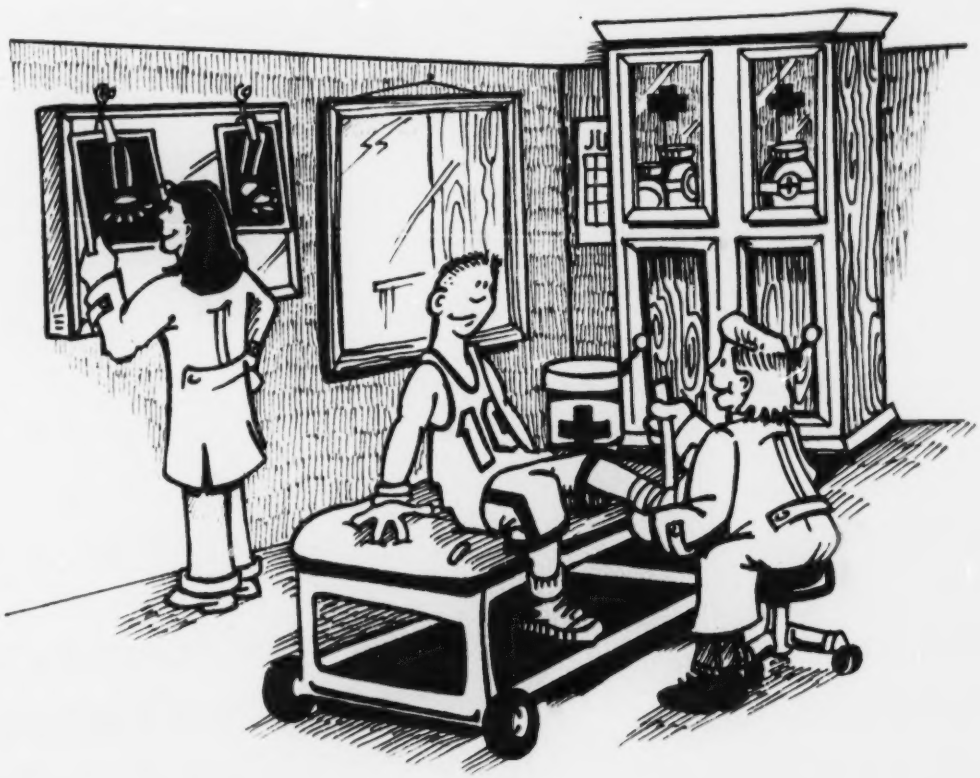
Organizing
Organizing and prioritizing work flow.

Follow-through
Pressing on to completion of assignments.

Detail/Accuracy
Taking care and proofreading words and numbers.

III. Health Services Career Pathway

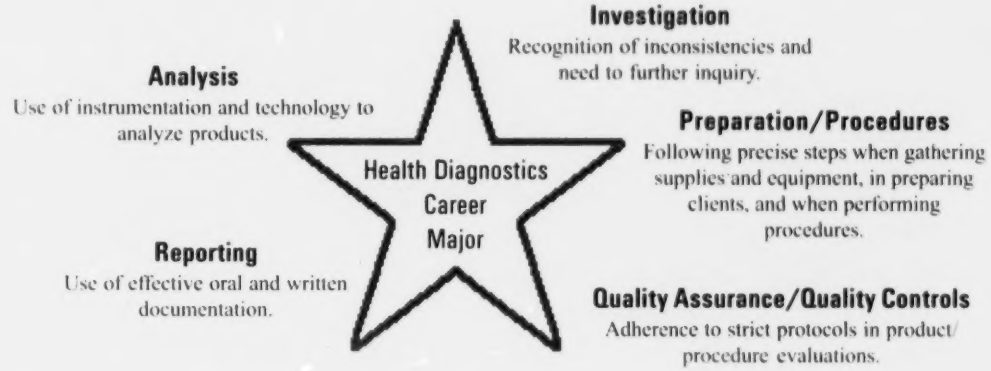
The Health Services Career Pathway includes educational programs of study and training designed to prepare students for careers in a health environment. Career majors in this pathway include: Health Diagnostics, Health Therapy, Health Information Support, and Health Care Environmental Services.



Health Diagnostics Career Major

The Health Diagnostics Career Major consists of coursework that prepares students for occupations that include Emergency Medical Technicians, Phlebotomists, Electrocardiograph Technicians, and Medical Laboratory Workers.

To acquaint students with Health Diagnostics careers, exploratory experiences should include the following activity components:


Investigation
Recognition of inconsistencies and need to further inquiry.
Analysis
Use of instrumentation and technology to analyze products.
Health Diagnostics Career Major
Preparation/Procedures
Following precise steps when gathering supplies and equipment, in preparing clients, and when performing procedures.
Reporting
Use of effective oral and written documentation.
Quality Assurance/Quality Controls
Adherence to strict protocols in product/procedure evaluations.

Health Therapy Career Major

The Health Therapy Career Major consists of coursework that prepares students for occupations that include Physical Therapists, Registered Nurses, Home Health Aides, Nursing Assistants, Dieticians, and Dentists.

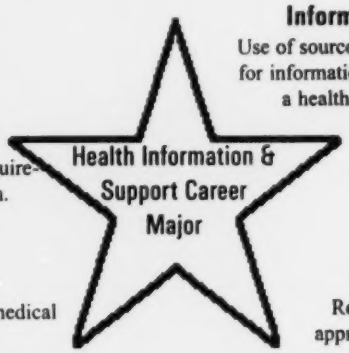
To acquaint students with Health Therapy careers, exploratory experiences should include the following activity components:

Data Collection
Use of observation, instrumentation, and environment to gather pertinent client information.
Implementation
Initiate therapy to treat problems.
Health Therapy Career Major
Evaluation
Continual patient/client assessment to evaluate results of therapy.
Treatment Planning
Involve patient/client and data to determine problems and therapy.
Communication
Effective use of oral and written communications techniques.

Health Information and Support Career Major

The Health Information and Support Career Major consists of coursework that prepares students for occupations that include Medical Records Technicians, Medical Assistants, and Health Services Managers.

To acquaint students with Health Information and Support careers, exploratory experiences should include the following activity components:



Information Systems
Use of sources, routes, and processes for information dissemination within a health care environment.

Analysis
Use of quantitative and qualitative requirements for patient/client information.

Legality
Following legal requirements on information records.

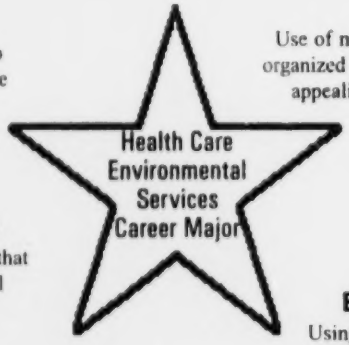
Information Coding
Use of abstract information from medical records for processing.

Documentation
Recording information using appropriate medical terminology in required forms.

Health Care Environmental Services Career Major

The Health Environment Services Career Major consists of coursework that prepares students for occupations that include Biologists, Chemists, and Sanitarians.

To acquaint students with Health Care Environmental Services careers, exploratory experiences should include the following activity components:



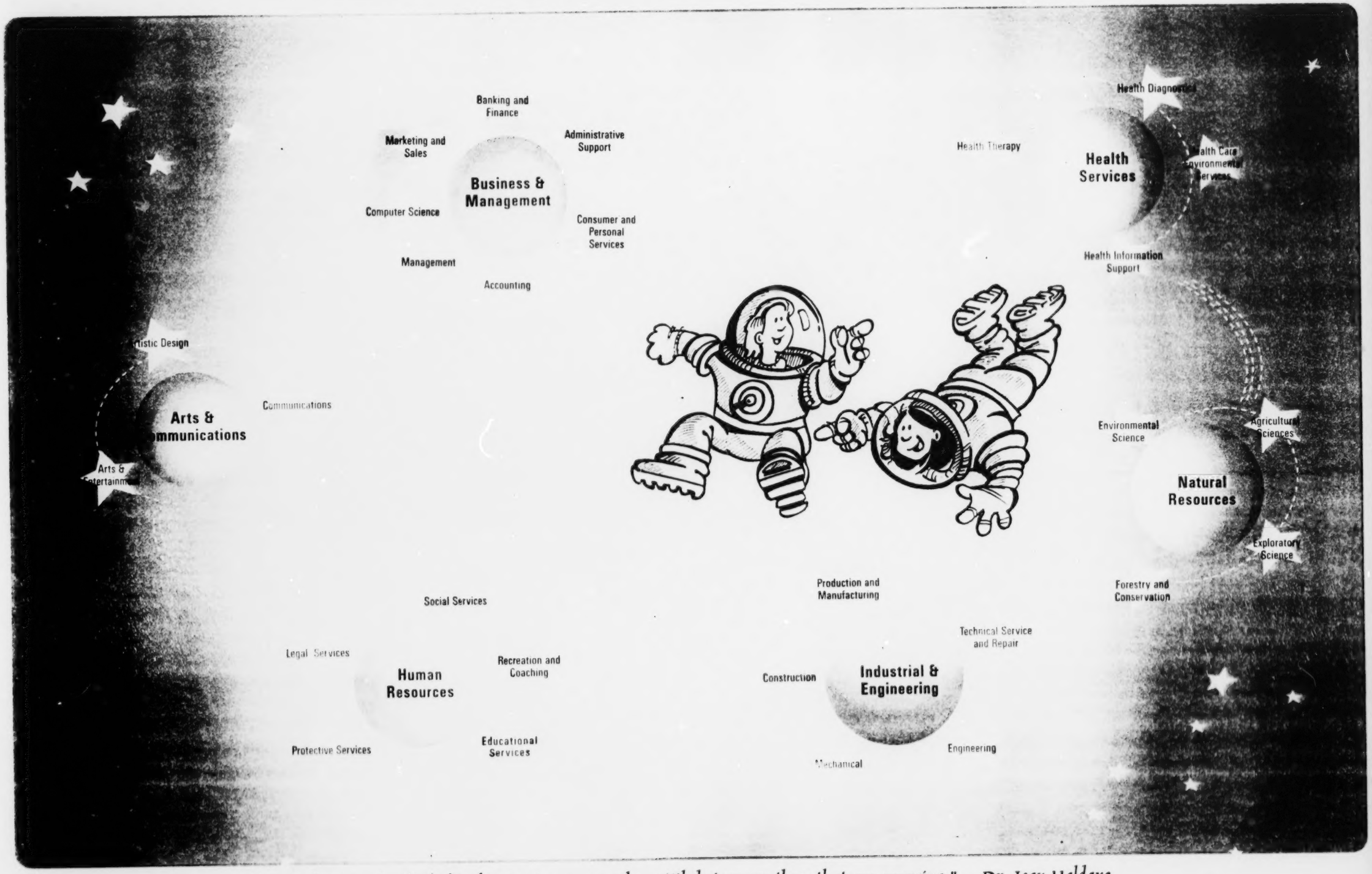
Asepsis
Use of environmental practices to maintain and clean any health care environment.

Aesthetics
Use of maintenance requirements and organized work environment to create an appealing and functioning facility.

Reporting
Use of appropriate communication techniques to report hazardous and unsafe environmental situations.

Resource Management
Use of principles and techniques that ensure available environmental resources.

Environment Operations
Using materials, supplies, and equipment, and following manufacturers' guidelines to promote safety and function in the environment.



BEST COPY AVAILABLE

"It takes time for the light of a star to emerge. The untitled stars are those that are emerging." ~ Dr. Jean Haldane

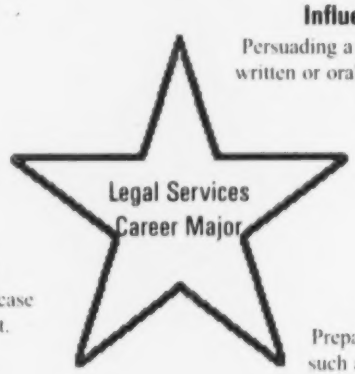
IV. Human Resources Career Pathway

The Human Resources Career Pathway includes educational programs of study and training designed to prepare students for careers in a human resources environment. Career majors in this pathway include: Legal Services, Protective Services, Social Services, Educational Services, and Recreation and Coaching.

Legal Services Career Major

The Legal Services Career Major consists of coursework that prepares students for occupations that include Lawyers, Judges, and Legal Assistants or Paralegals.

To acquaint students with Legal Services careers, exploratory experiences should include the following activity components:



Influencing/Words
Persuading a jury or judge through a written or oral presentation of facts or evidence.

Interviewing
Obtaining information from clients and witnesses.

Analysis
Examining the interrelated parts of cases and their relationship to law.

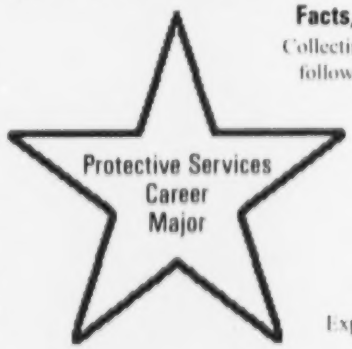
Research/Memory
Investigation and recall of case law to identify precedent.

Documents
Preparing legal documents such as contracts and wills.

Protective Services Career Major

The Protective Services Career Major consists of coursework that prepares students for occupations that include Detectives and Investigators, Law Enforcement Officers, Corrections Officers, Security Guards, Compliance Officers and Inspectors, and Fire Fighters.

To acquaint students with Protective Services careers, exploratory experiences should include the following activity components:



Facts/Evidence/Procedures
Collecting objective information by following a series of steps or an established order.

Observation/Investigation
Studying by close examination and systematic inquiry.

Reports
Making a written record or summary.

Mediation
Intervening between conflicting parties to promote reconciliation.

Risk-taking
Exposing oneself to hazards or danger.

Social Services Career Major

The Social Services Career Major consists of coursework that prepares students for occupations that include Clergy, Social Workers, Counselors, Psychologists, Sociologists, and Mental Health Technicians.

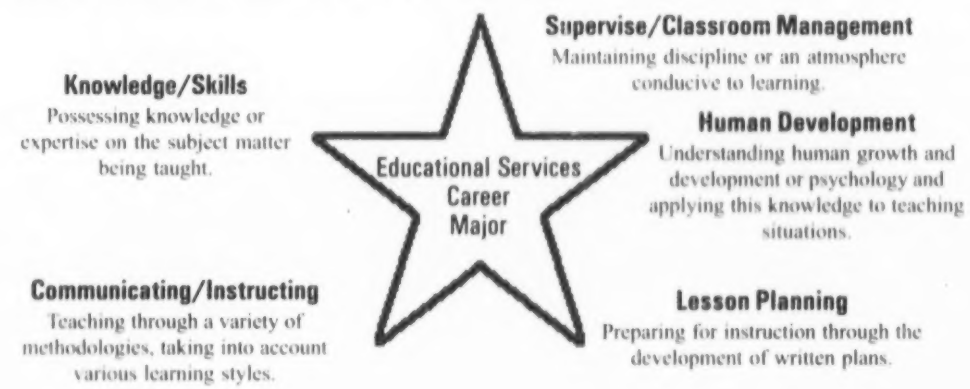
To acquaint students with Social Services careers, exploratory experiences should include the following activity components:

Information
Imparting knowledge that provides guidance to someone who doesn't know what to do.
People/Relationships
Building rapport with people through establishing a special affinity or kinship.
Social Services Career Major
Helping
Being of service in providing support when someone is in need.
Diagnostics
Utilizing methods for tracing problems to their sources.
Listening/Compassion
Paying attention to spoken and unspoken words and showing sensitivity to others feelings.

Educational Services Career Major

The Educational Services Career Major consists of coursework that prepares students for occupations that include Child Care Workers, Teacher Assistants, Preschool Teachers, Librarians, Elementary, Secondary, University and College Teachers.

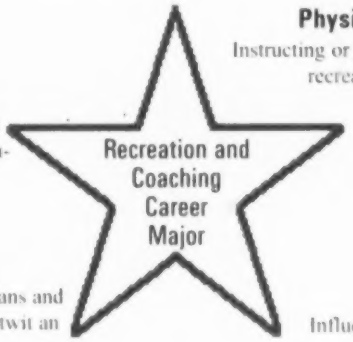
To acquaint students with Educational Services careers, exploratory experiences should include the following activity components:


Supervise/Classroom Management
Maintaining discipline or an atmosphere conducive to learning.
Knowledge/Skills
Possessing knowledge or expertise on the subject matter being taught.
Educational Services Career Major
Human Development
Understanding human growth and development or psychology and applying this knowledge to teaching situations.
Communicating/Instructing
Teaching through a variety of methodologies, taking into account various learning styles.
Lesson Planning
Preparing for instruction through the development of written plans.

Recreation and Coaching Career Major

The Recreation and Coaching Career Major consists of coursework that prepares students for occupations that include Recreation Attendants, Recreation Guides, Recreation Leaders, Coaches, and Recreation Directors.

To acquaint students with Recreation and Coaching careers, exploratory experiences should include the following activity components:



Physical Activity
Instructing or facilitating sports and recreation activity.

Fundamentals/Techniques
Teaching proper fundamentals and techniques associated with a particular physical activity.

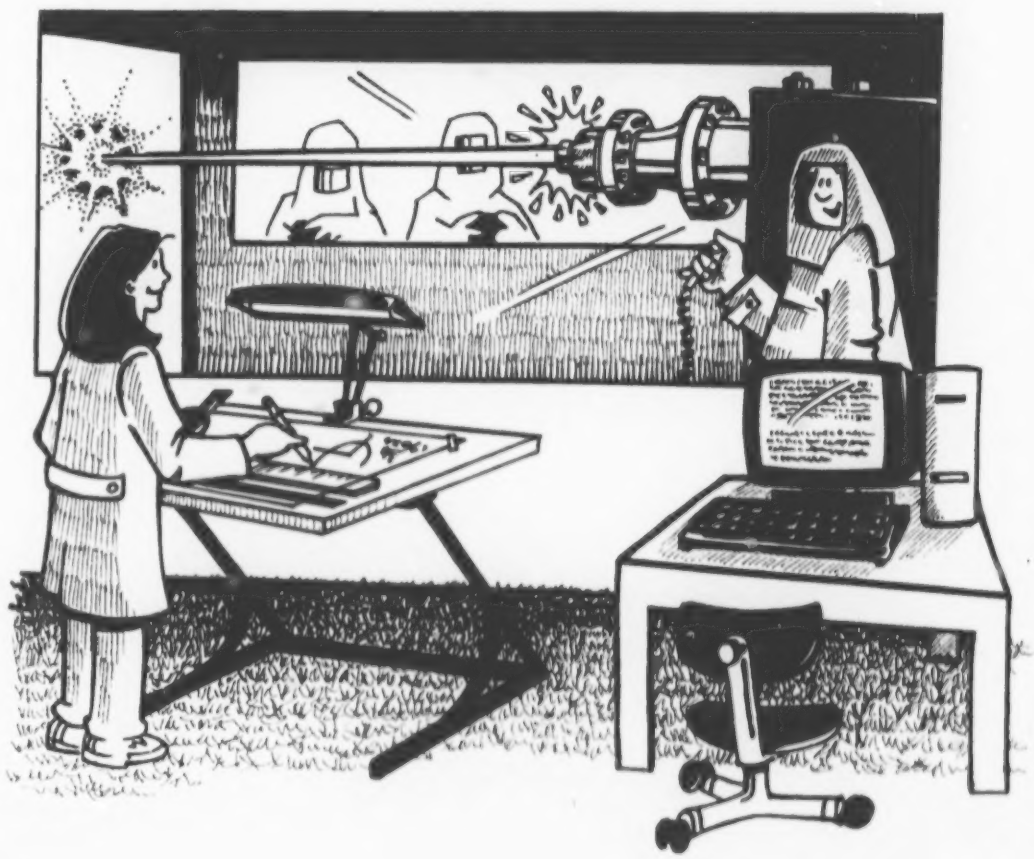
Directing/Organizing
Regulating the activities and overall direction of a sports or recreational program.

Strategy
Devising or employing plans and methods to deceive or outwit an opponent.

Motivating
Influencing, encouraging, or spurring others to act.

V. Industrial and Engineering Career Pathway

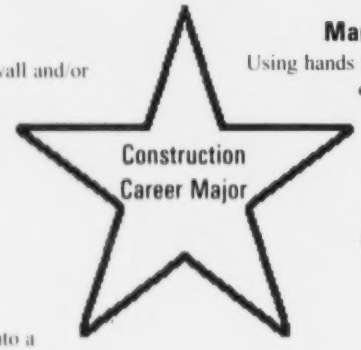
The Industrial and Engineering Career Pathway includes educational programs of study and training designed to prepare students for careers in an industrial and engineering environment. Career majors in this pathway include: Construction, Mechanical, Production and Manufacturing, Technical Service and Repair, and Engineering.



Construction Career Major

The Construction Career Major consists of coursework that prepares students for occupations that include Carpenters, Electricians, Plumbers and Pipefitters, Ironworkers, and Roofers.

To acquaint students with Construction careers, exploratory experiences should include the following activity components:



Materials
Working with wood, metals, drywall and/or other materials.

Manual Dexterity
Using hands to assemble materials and operate tools.

Structural Design/Procedures
Following structural building procedures.

Tools/Equipment
Operating tools and equipment.

Building
Forming by uniting materials into a composite whole by following a systemic process.

Mechanical Career Major

The Mechanical Career Major consists of coursework that prepares students for occupations that include Aircraft Technicians, Small Engine Mechanics, Automobile Technicians, and Truck and Heavy Equipment Mechanics.

To acquaint students with Mechanical careers, exploratory experiences should include the following activity components:

Components/Systems
Installing and repairing electrical, cooling, hydraulic and fuel systems and components.

Diagnostics/Observation
Inspecting mechanical parts and consulting manuals and/or diagnostic equipment to troubleshoot problems.

Tools/Equipment
Operating tools and equipment in making mechanical installations and repairs.

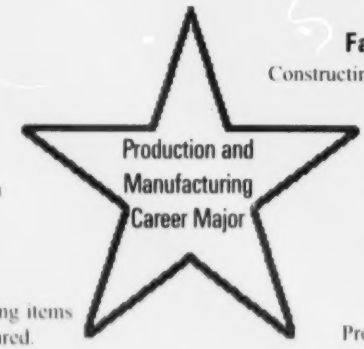
Maintain
Performing preventative maintenance and check-ups.

Repair
Restoring or rebuilding mechanical devices by fixing or replacing defective parts.

Production and Manufacturing Career Major

The Production and Manufacturing Career Major consists of coursework that prepares students for occupations that include Machinists, Millwrights, Numerical Control Machine Operators, and Tool and Die Makers.

To acquaint students with Production and Manufacturing careers, exploratory experiences should include the following activity components:



Fabrication
Constructing or manufacturing.

Process/Procedures
Following blue prints and a series of establishing actions or operations.

Machines
Programing, setting up and using high-speed machine tools.

Precision
Executing with exactness. Adherence to a strict standard or low tolerance.

Layout
Planning, designing, and arranging items to be produced or manufactured.

Technical Service and Repair Career Major

The Technical Service and Repair Career Major consists of coursework that prepares students for occupations that include Radio and TV Service Technicians, Computer and Office Machine Repairers, Laser Technicians, and Appliance Repairers.

To acquaint students with Technical Service and Repair careers, exploratory experiences should include the following activity components:

Detail
Paying attention to detail in following diagrams and manufacturing specifications and trouble-shooting problems.

Customer Relations
Answering customer questions and complaints and giving information about the care and use of appliances and electric equipment.

Install/Repair
Installing and repairing electrical and electronic equipment such as radios, televisions, stereo components, and home security systems.

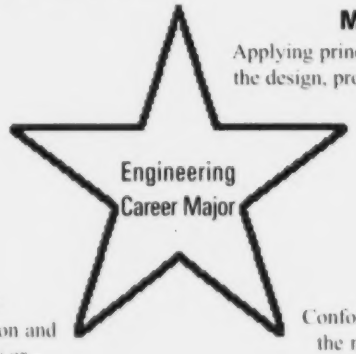
Diagnostics
Inspecting electrical, electronic, and mechanical parts; consulting service manuals; and testing equipment to troubleshoot problems.

Electrical/Electronic
Working with electrical and electronic parts and testing equipment.

Engineering Career Major

The Engineering Career Major consists of coursework that prepares students for occupations that include Mechanical Engineers, Electrical and Electronic Engineers, Civil Engineering Technicians, Surveyors, and Semiconductor Processing Operators.

To acquaint students with Engineering careers, exploratory experiences should include the following activity components:



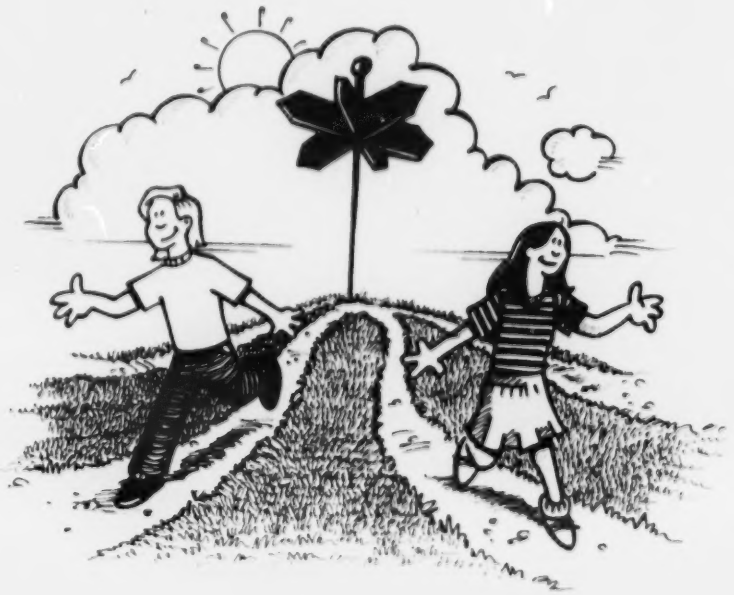
Mathematics/Science
Applying principles of science and mathematics in the design, production, or construction of goods or building projects.

Planning/Designing
Conceiving and planning projects by drawing up layouts and/or making models.

Problem-Solving
Solving design, production or building problems.

Developments
Overseeing the production and construction of goods or building projects.

Standards
Conforming to established rules for the measure of quantity, weight, extent, value, or quality.



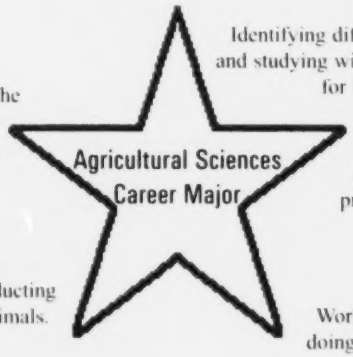
VI. Natural Resources Career Pathway

The Natural Resources Career Pathway includes educational programs of study and training designed to prepare students for careers in a natural resources environment. Career majors in this pathway include: Agricultural Sciences, Forestry and Conservation, Environmental Sciences, and Exploratory Sciences.

Agricultural Sciences Career Major

The Agricultural Sciences Career Major consists of coursework that prepares students for occupations that include Horticulturists, Agronomists, Animal Scientists, Plant Scientists, Farmers and Ranchers, and Veterinary Technicians.

To acquaint students with Agricultural Science careers, exploratory experiences should include the following activity components:



Animals/Plants
Identifying different domestic breeds of animals, and studying wild and domestic plants that are used for food, clothing or shelter.

Tools/Equipment
Using, maintaining, and repairing the tools and equipment used by the agricultural industry.

Growing/Producing
Producing, processing, and marketing products that are derived from plants and animals.

Science/Research
Learning principles of science and conducting basic research related to plants and animals.

Outdoors
Working in outdoor locations doing tasks that are required of workers engaged in agricultural careers.

Forestry and Conservation Career Major

The Forestry and Conservation Career Major consists of coursework that prepares students for occupations that include Foresters, Range Conservationists, Fish and Wildlife Technicians, and Park Rangers.

To acquaint students with Forestry and Conservation careers, exploratory experiences should include the following activity components:

Conserving/Protecting
Conserving and protecting natural resources such as forests, minerals, environments, and ecosystems.

Outdoors/Field Work
Working in outdoor locations doing field work and other tasks that are required of workers engaged in forestry and conservation careers.

Resource Management
Using natural resources in a manner that provides for multiple uses of a resource by a variety of users while providing for protection and conservation when it is needed.

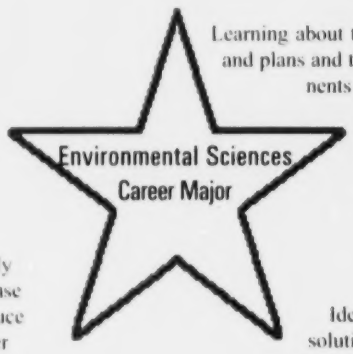
Science/Research
Learning principles of science and conducting basic research related to forestry and other forest resources.

People/Regulations
Learning about the laws and regulations that govern the use of natural resources by people.

Environmental Sciences Career Major

The Environmental Sciences Career Major consists of coursework that prepares students for occupations that include Marine Biologists, Environmental Engineers, Water and Wastewater Plant Operators, Landscapers, and Ecologists.

To acquaint students with Environmental Science careers, exploratory experiences should include the following activity components:



Ecosystems
Learning about the relationships between animals and plans and the living and non-living components of their environments.

Air/Water/Soil
Defining the solutions to problems related to conserving and improving the quality of our air, soil, and water resources.

Outdoors
Studying the effects of specific activities of man, animals and other forces on outdoor environments.

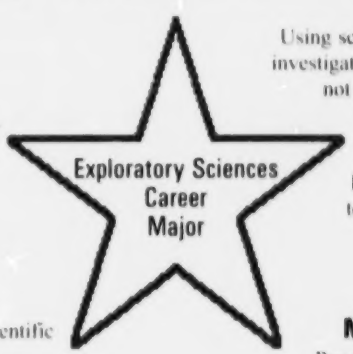
Chemicals
Seeking ways to use chemicals safely and/or find alternatives to chemical use while maintaining the ability to produce an adequate supply of food and fiber products to sustain our needs.

Waste Management
Identifying and implementing creative solutions to pollution problems that impact environments due to improper management of waste materials.

Exploratory Sciences Career Major

The Exploratory Sciences Career Major consists of coursework that prepares students for occupations that include Earth Scientists, Geologists, Oceanographers, Astronomers, and Meteorologists.

To acquaint students with Exploratory Science careers, exploratory experiences should include the following activity components:



Discovery
Using scientific exploration and investigation to find out what was not previously known.

Technologies
Using modern computers, machines, and equipment that supports the field of science.

Analysis
Learning to think critically and to base judgements on scientific evidence.

Research
Planning and conducting basic scientific research.

Measuring/Precision
Practicing accuracy in performing scientific operations and measurements.

Appendices

Sample Exploratory Experience Outline Form

I Activity Title: _____

II Career Pathway: _____

A. Career Major: _____

III. Student Learning Objectives:

A. _____

B. _____

C. _____

IV. Activity Description: _____

_____

_____

_____

_____

_____

_____

V. Evaluation: _____

_____

_____

_____

VI. Resources Needed:

A. Time: _____

B. Equipment: _____

C. Materials and Supplies: _____

Sample Exploratory Experience

Sample Exploratory Experience Activity

I Activity Title: Blood Glucose Analysis*

II Career Pathway: *Health Services*

A. Career Major: *Health Diagnostics*

III. Student Objectives:

A. *Explain the importance of knowing the levels of blood glucose in one's body.*

B. *Relate high blood sugar levels to disease.*

C. *Observe / demonstrate the collection of blood and blood glucose analysis when investigating one's glucose level.*

IV. Activity Description: *The instructor or guest (laboratory worker or other qualified diagnostic specialist) should lead discussion on objective one.* ***Quality assurance*** *measures (controls) should be emphasized - see attached sheet on "Laboratory - QC on Glucose Monitor". Instructor/guest speaker should go over the entire* ***preparation procedure*** *and explain equipment / supplies and uses. Students should then extract a drop of their own blood and measure blood glucose on the meter following strict* ***procedure****. If meter shows some* ***inconsistencies*** *(try reading at two different times from same person) or reads high when low sugar is expected, further* ***investigation*** *is needed.*

V. Evaluation: *Students should be able to do the procedure correctly; do* ***quality assurance*** *measures; interpret the* ***analysis*** *(high/low or average blood sugar); determine if further* ***investigation*** *of one's blood sugar is needed;* ***report*** *findings and relate to disease processes (i.e. diabetes) and then explain the steps to assure a quality blood sugar test. This* ***procedure*** *could be done several times and students could keep a* ***chart****, a* ***record****, of findings.*

VI. Resources Needed:

A. Time: *At least one hour*

B. Equipment: *See attached list of equipment and supplies.*

C. Materials and Supplies: *Glucolet 2 Automatic Lancing Device, Fingerstix Lancet, soap and warm water or alcohol swabs, cotton balls or facial tissue, timer or watch (capable of measuring in seconds)-if not provided with blood glucose test system, blood glucose test strips, blood glucose test meter, disposable gloves if one person extracts blood from another person (see* ***procedures****); band-aid.*

**Students may need parental permission for this activity. Check school policy.*

Laboratory - QC on Glucose Monitor

1. Cleans the One Touch II Hospital meter with water.
2. Presses "start" button.
3. Inserts patient platform.
4. Compares code number in meter display with code number on test strip.
5. Obtains check strip reading and compares width range on back of machine.

5. In control? Yes/No

6. Performs QC Solutions test daily each shift.
   A. Checks lot number/expiration date on control solution and test strips.
   B. Puts machine in QC mode.

6 a. Are the readings in range? Yes/No
   b. By person(s) who are doing the testing.
   c. Once per shift on code number/lot number in use at your station.
   d. Solutions good for 3 months after opening. Test strips for 4 months after opening. Date/initial both at time put into use.

7. Documents control and checks strip results on verification records.
8. Turns off machine.
9. Cleans window with Q-tip and water.
10. Dries with tissue.
11. Returns machine to storage area.

11. Returns to storage area so that others can find it.

Printed with permission of St. Lukes Regional Medical Center. Boise, Idaho

Resources

Career Pathways Module, CIS: Idaho Career Information System, 650 W. State St., Len B. Jordan Bldg., Box 83720, Boise, Idaho 83720-0095. Phone: (208) 334-3705.

Career Pathways: Moving to a Focused Education, Idaho Division of Vocational Education, 650 W. State St., Len B. Jordan Bldg., Room 324, P.O. Box 83720-0095. Phone: (208) 334-3216, FAX: (208) 334-2365, January, 1997.

Career Mini Lessons for the Classroom, Vocational Biographies, P.O. Box 31, Sauk Center, MN 56378.

Career Trek: An interactive career awareness resource, designed for grades 4-6 and above, CIS: Idaho Career Information System, 650 W. State St., Len B. Jordan Bldg., Box 83720, Boise, Idaho 83720-0095. Phone: (208) 334-3705.

CIS: Idaho Career Information System, 650 W. State St., Len B. Jordan Bldg., Box 83720, Boise, Idaho 83720-0095. Phone: (208) 334-3705.

Food Science Safety and Nutrition, National FFA Foundation, P.O. Box 45205, Madison, Wisconsin 53744-5205. Phone: (608) 829-3105, FAX: (608) 829-3195.

Idaho Comprehensive Career Guidance Activity Kit, Shelly Renzelman, University of Idaho, Vocational Curriculum Desimination Center, College of Education Room 209, 375 S. Line St., Moscow, Idaho 83844-3083. Phone: (208) 885-6556, FAX: (208) 885-6869

Idaho Comprehensive Career Guidance Program: A Guide for Program Development, Shelly Renzelman, University of Idaho, Vocational Curriculum Desimination Center, College of Education Room 209, 375 S. Line St., Moscow, Idaho 83844-3083. Phone: (208) 885-6556, FAX: (208) 885-6869

Introduction to Career Pathways - Assisting Students to Establish Career and Educational Direction, Idaho Division of Vocational Education, January, 1997. 650 W. State St., Len B. Jordan Bldg., Room 324, P.O. Box 83720, Boise, Idaho 83720-0095. Phone: (208) 334-3216, FAX: (208) 334-2365.

Math/Science/Technology Projects, # P30. Donald Maley, DTE, Editor. 1985. International Technology Education Association, 1914 Association Drive, Reston, VA 20191-1539.

Technology Activities Idea Book 1, #P35. International Technology Education Association, 1914 Association Drive, Reston, VA 20191-1539. Phone: (703) 860-2100.

MECCA: Making Equity Count for Classroom Achievement, Utah Office of Education, 250 E. 500 South, Salt Lake City, UT 84111. Phone: (801) 538-7921.

Metoo Career Choices, Designed for grades K through 3. CIS: Idaho Career Information System, 650 W. State St., Len B. Jordan Bldg., Box 83720, Boise, ID 83720-0095. Phone: (208) 334-3705.

MicroMastery: Keyboarding and Work Processing Applications for Junior High/ Middle School, Marshall & Haggblade, South-Western Publishing, 1994. TB11AA.

PAWS with Language Arts (keyboarding) Level 1, Sormunen & Wickersham, South-Western Publishing, 1990. PL01AA.

Planning Activities for Child Care, Caroline Spang Rosser. Goodheart - Willcox Publisher, 18604 W. Creek Dr., Tinley Park, IL 60477-6243. 0-87006-989-6. Phone: 1-800-323-0440.

Projects in Business Record Keeping, Swinney & VanSickle, South-Western Publishing, 6th Edition, 1993. BB29F34.

Project 1	Shipping Made Easy
Project 2	Wagon Wheel Apartments
Project 3	The Pizza Shop
Project 4	The Trading Post
Project 5	Sound Sensational
Project 6	Max's Market

Technology Learning Activities I, #P89. Elementary through high school. Published in The Technology Teacher through 1993 anf compiled in this publication. International Technology Education Association, 1914 Association Drive, Reston, VA 20191-1539.

Technology Education Activity Packs, 24 sets of Technology Education Activities contain 10 different activities. Appropriate for 6-12 grades. # P104-P123. Ball State University, International Technology Education Association, 1914 Association Drive, Reston, VA 20191-1539. Phone: (703) 860-2100.

What Works One: Building an Integrated Technological Foundations Experience for 7th and 8th Graders, Arizona State University, Office of Vocational Education, P.O. Box 873111, Tempe, Arizona, 85287-3111.

Your Career Search, A Teacher's Guide, Activities for Middle School and Junior High Students, CIS: Idaho Career Information System, 650 W. State St., Len B. Jordan Bldg., Box 83720, Boise, ID 83720-0095. Phone: (208) 334-3705.

http://www.ascd.org
Sponsored by the Association for Supervision and Curriculum Development, this site's "search" function can point to many web resources on curriculum integration.

This Document was published by the Idaho Division of Vocational Education, an equal opportunity employer. Hiring is done without regard to race, color, religion, national origin, sex, age, or disability. Appropriate consideration shall be given to veterans in accordance with applicable state and federal laws and regulations.

997/500/#338G

BEST COPY AVAILABLE